Grid-Connected PV Capacity (kW) Installed in California

California Energy Commission*	30,683
California Public Utilities Commission*	17,277
Sacramento Municipal Utility District	11,410
Los Angeles Department of Water and Power	8,951
Pre-1998	1,918
City of Riverside Public Utilities	389
City of Anaheim Public Utilities	286
City of Palo Alto Utilities	263
City of Roseville Electric	115
City of Pasadena Water and Power	84
City of Santa Clara Electric Utility	54
City of Glendale Water and Electric	19
Pacific Power	19
City of Ukiah Public Utilities	14
City of Burbank Water and Power	7
City of Alameda Power and Telecom	5
City of Lodi Electric Utility	4
City of Redding Electric Utility	2

TOTAL 71,498 kW

71.50 MW

This analysis tracks the capacity of grid-connected PV installations in California from 1981 until the present. The vast majority of the early installations can be attributed to the work done by the Sacramento Municipal Utility District (SMUD). Beginning in 1998, the Energy Commission's Emerging Renewables ("Buydown") Program began offering rebates for grid-connected "emerging" systems in the service territories of the three largest Investor Owned Utilities (IOUs) - PG&E, SCE and SDG&E. In 2001, the Public Utilities Commission began the Self-Generation Incentive Program. The "Self-Gen" Program also offers rebates, but the program is administered by the utilities (PG&E, SCE, SDG&E and SCGC) directly. The Los Angeles Department of Water and Power (LADWP), as well as many of the smaller utilities, offer their own incentive programs.

^{*} The Energy Commission's Emerging Renewables Program is open to the ratepayers of PG&E, SCE and SDG&E. The Public Utilities Commission's Self-Generation Incentive Program is open to the ratepayers of PG&E, SCE, SDG&E and the SCGC.

Grid-Connected PV Capacity Installed in California

YEAR

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total	
Program																										
Sacramento Municipal Utility Distric	0	0	0	1,230	0	1,230	0	0	0	0	0	23	495	675	561	421	405	236	1,220	1,446	1,679	1,390	363	36	11,410	
California Energy Commission	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	181	619	726	4,034	8,102	12,268	4,753	30,683	
Pacific Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	360	487	2,041	4,951	7,411	2,926	18,23	
Southern California Edisor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120	250	133	1,118	2,108	3,158	1,275	8,16	
San Diego Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	106	866	1,042	1,675	551	4,25	
Bear Valley Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	24	0		33
Los Angeles Department of Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	432	589	2,573	3,829	1,426	8,951	
California Public Utilities Commission																					0	1,889	9,928	5,460	17,277	
Pacific Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,671	4,208	4,633	10,51	
Southern California Edisor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	2,649	436	3,19	
San Diego Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	1,971	391	2,43	
***Southern California Gas Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	1,100	0	1,13	30
Pre-1998	37	38	11	12	15	63	-	4	59	15	17	477	806	(336)	(250)	378	110	464	-	-	-	-	-	-	1,918	
City of Palo Alto Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	16	103	73	40	15	263	
City of Santa Clara Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	34	14	4	0	54	
City of Pasadena Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84	0		84	
City of Burbank Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	3	0		7	
City of Anaheim Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	141	84	50	11	286	
City of Redding Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0		2	
City of Glendale Water and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	. 0		19	
City of Riverside Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150	15	214	10	389	
City of Roseville Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	44	62	0	115	
Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	9	0	0	19	
City of Alameda Power and Telecom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0			
City of Ukiah Public Utilities	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	8	_	14	
City of Lodi Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	
TOTAL	37	38	11	1,242	15	1,293	0	4	59	15	17	500	1,301	339	311	799	515	885	1,970	2,622	6,743	14,307	26,766	11,711	71,498	
Cumulative Total	37	75	86	1,328	1,342	2,635	2,635	2,639	2,698	2,713	2,730	3,230	4,530	4,869	5,180	5,980	6,494	7,379	9,349	11,971	18,714	33,021	59,787	71,498		

NOTES

* The Energy Commission's Emerging Renewables Program is open to the ratepayers of PG&E, SCE and SDG&E. The Public Utilities Commission's Self-Generation Incentive Program is open to the ratepayers of PG&E, SCE, SDG&E and the SCGC.

** The 2004 data is current as of 3/31/04.

*** The Southern California Gas Company (SCGC) has paid on over 4 MW of PV. However, the Gas Company has overlapping territory with several electric utilities that are reporting on the same projects. For projects that have participated in multiple programs with the Gas Company, the totals will be reported by electric utilities. Projects that have only participated in the Gas Company rebate program will be reported under the Gas Company header.

"Pre-1998" Row: These numbers were derived by subtracting the total kW installed by SMUD each year from the totals contained in Appendix A of the 2001 EPRI Report titled "California Renewable Technology Market and Benefits Assessment." In some years, there is a negative number. This obviously did not happen. To be consistent with the EPRI data, it was decided to keep the negative number rather than make more assumptions. Similarly, when determining the number of systems by year, the results showed negative numbers. Again, to be consistent with the EPRI data, it was decided to keep the negative number rather than make more assumptions.

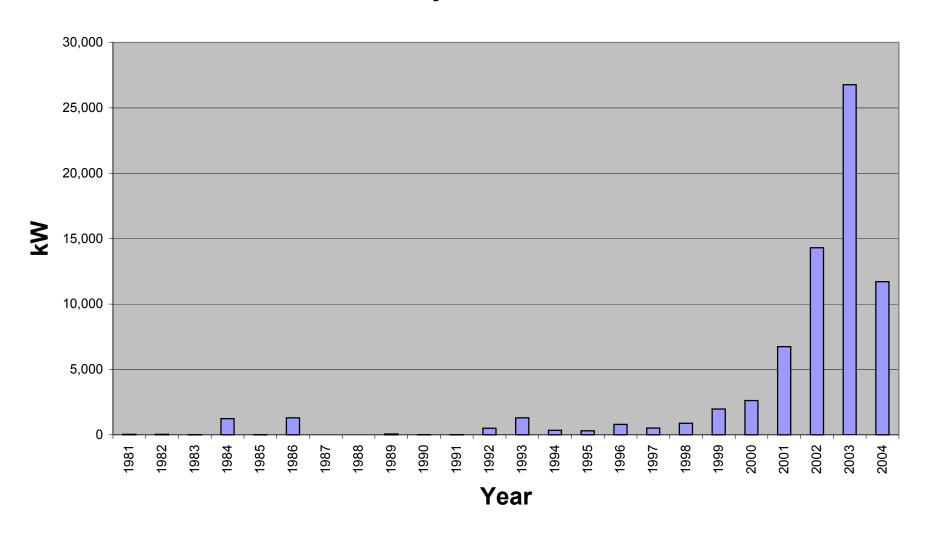
In some cases, the 2002 totals for the smaller utilities reflect the cumulative total of all PV installed, not just the 2002 total.

Many of the utilities contacted had, at one time, a solar rebate program. It is possible other utilities have rebate programs, or other utilities may have installed PV, but those are not accounted for in thi summary.

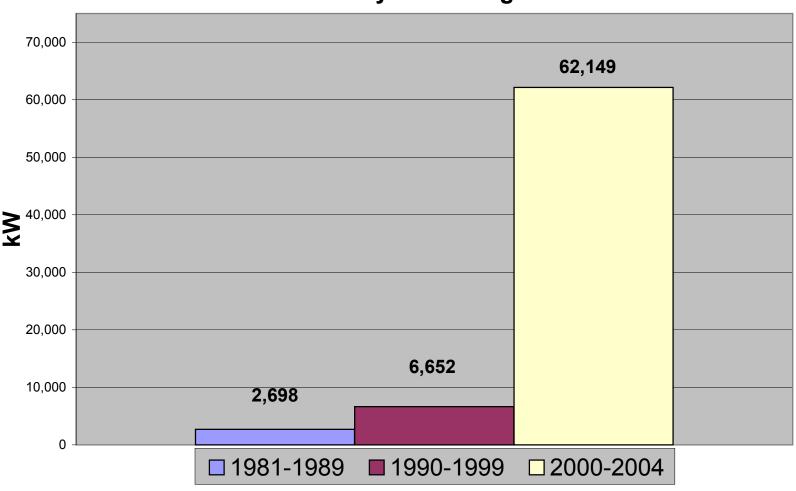
The Energy Commission numbers do not include any Publicly Owned Electric Utility installed systems. The Energy Commission has paid for 343 kW of these systems. However, to avoid double counting, these numbers were subtracted from the yearly totals.

The majority of programs report their watts in PTC. PTC stands for "PVUSA Test Conditions." PTC watt rating is based on 1000 Watt/m2 solar irradiance, 20 degree Celsius ambient temperature, and meter/second wind speed. The PTC watt rating is lower than the "Standard Test Conditions" (STC), a watt-rating used by manufacturers. Known programs that do not use PTC include: Los Angeles Department of Water and Power (STC); City of Riverside Public Utilities (DC output).

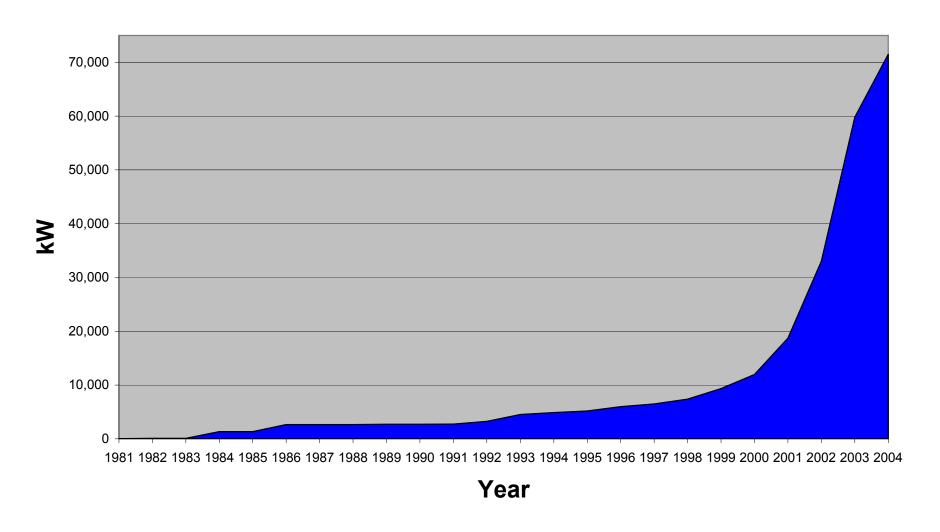
Grid-Connected PV Capacity Installed in California By Year



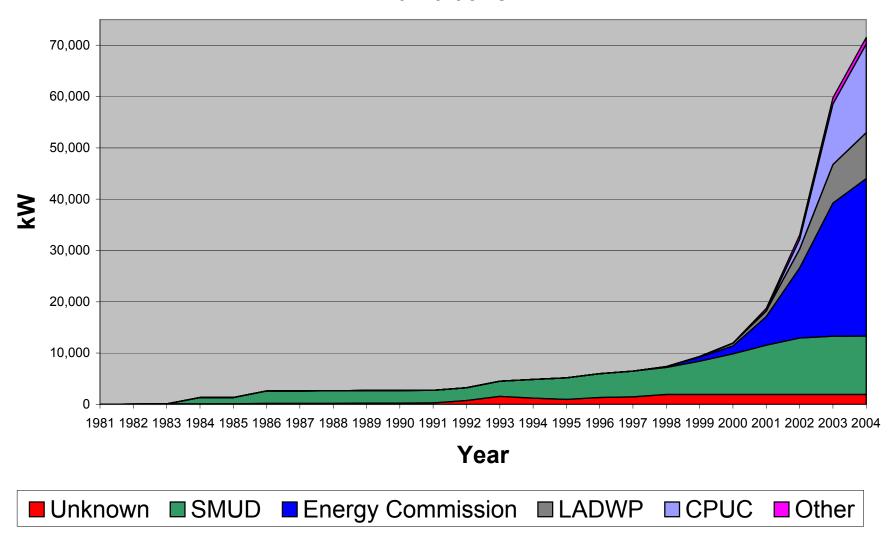
Grid-Connected PV Capacity Installed in California by Date Range



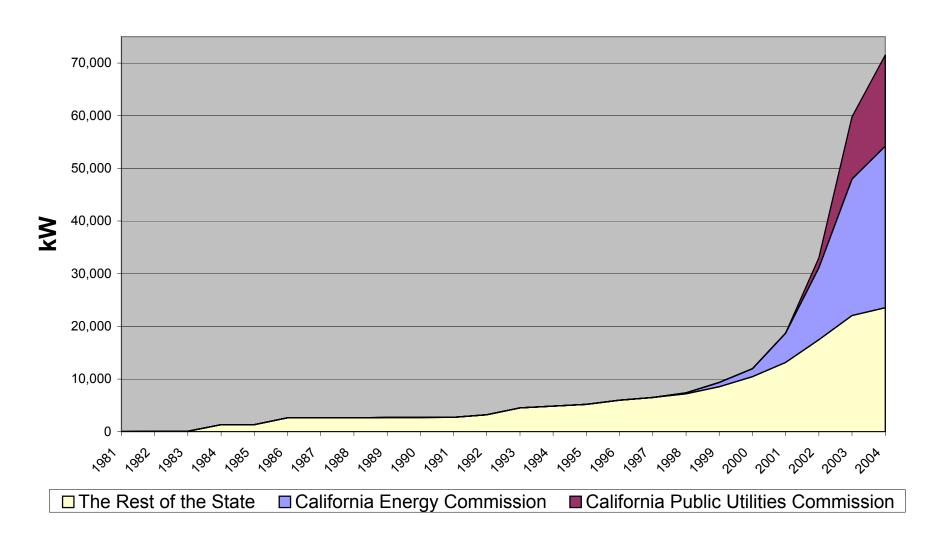
Grid-Connected PV Capacity Installed in California Cumulative



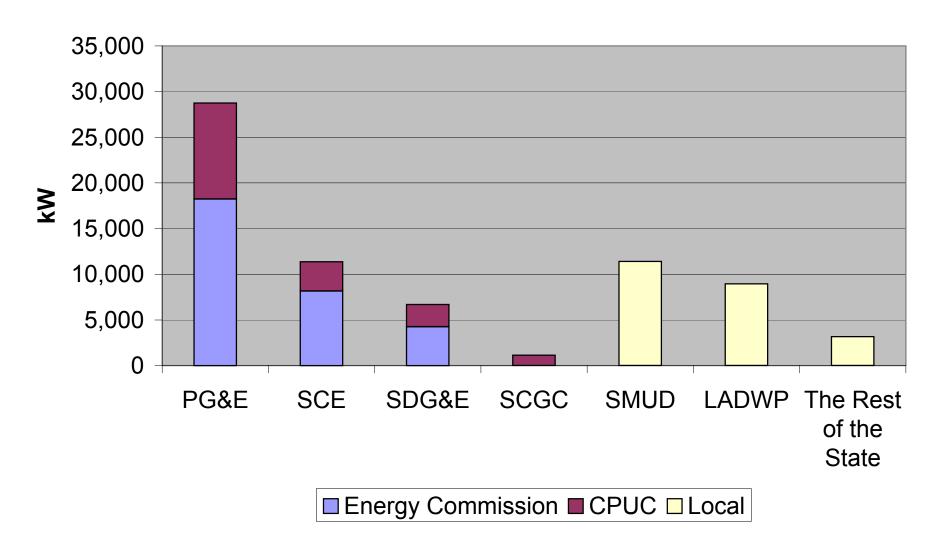
Grid-Connected PV Capacity Installed in California Cumulative



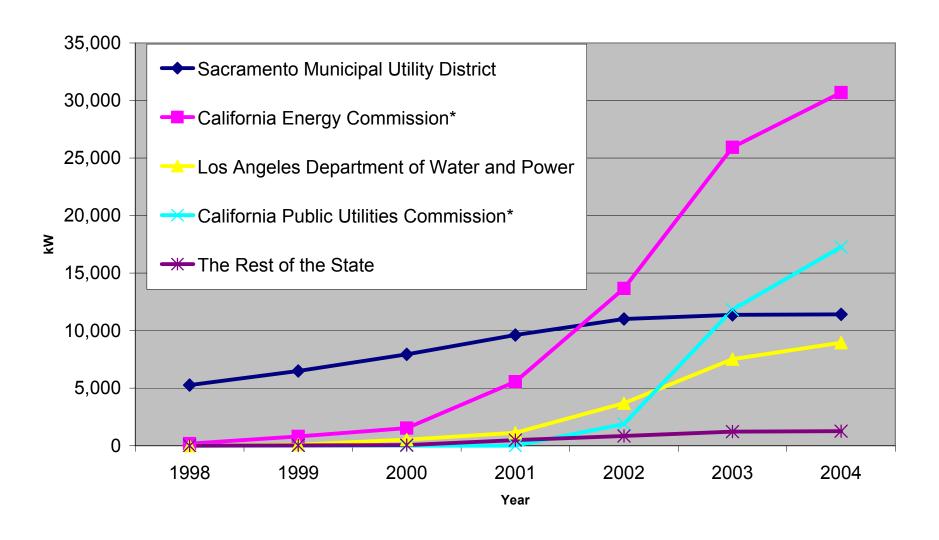
Grid-Connected PV Capacity Installed in California Cumulative



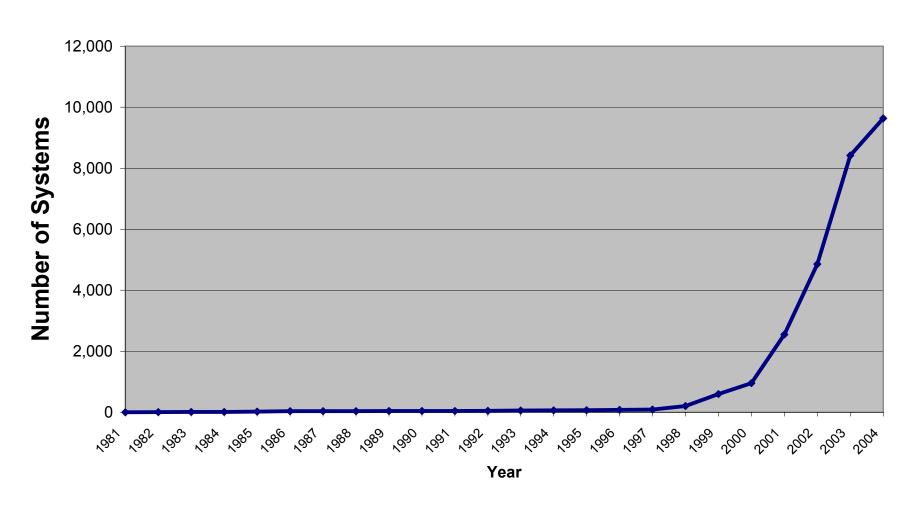
Grid-Connected PV Capacity Installed in California by Service Territory



Grid-Connected PV Capacity Installed in California Cumulative kW Installed by Program: 1998 - 2004



Number of Grid-Connected PV Systems Installed In California Cumulative



Grid-Connected PV Program Contacts in California

Program	Contact	Telephone	Email
California Energy Commission*	Dale Trenschel	916-653-2834	Dtrensch@energy.state.ca.us
	Γ		
California Public Utilities			
Commission*	John Galloway	415-703-2565	jhg@cpuc.ca.gov
	Dean Heatherington		selfgen@pge.com
	Howard Green	626-302-8436	greenh@sce.com
	Mike Magee	858-244-1177	selfgen@sdenergy.org
SCGC	Marshall Kiyohiro	213-244-5619	selfgeneration@socalgas.com
Sacramenta Municipal Htility	1	1	
Sacramento Municipal Utility District	Mike Keese	916-732-5244	MKaasa@amud.org
District	wike Keese	910-732-3244	MKeese@smud.org
Los Angeles Department of Water and Power	Thomas Honles	213-367-3151	thomas.honles@ladwp.com
City of Palo Alto Utilities	Lindsay Joye	650-329-2241	pvpartners@cityofpaloalto.org
.,	1 7 7 -	!	1
City of Santa Clara Electric Utility	Leslie Brown	408-244-SAVE	lbrown@ci.santa-clara.ca.us
City of Pasadena Water and Power	Mauricio Mejia	626-744-6970	mmejia@ci.pasadena.ca.us
City of Burbank Water and Power	John Joyce	818-238-3653	jjoyce@ci.burbank.ca.us
City of Anaheim Public Utilities	Dina Predisik	714-765-4182	dpredisik@anaheim.net
City of Redding Electric Utility	Pam Brady-Koss	530-339-7215	pbradykoss@reddingelectricutility.com
City of Glendale Water and Electric	Ned Bassin	818-548-2748	nbassin@ci.glendale.ca.us
City of Riverside Public Utilities	Atoya Mendez	909-826-5790	amendez@ci.riverside.ca.us
City of Roseville Electric	Pat Morrison	916-774-5624	pmorrison@roseville.ca.us
Pacific Power	Michael Reid	503-813-6052	michael.reid@pacificorp.com
City of Alameda Power and Telecom	Don Rushton	510-748-3946	drushton@alamedapt.com
City of Ukiah Public Utilities	Cindy Sauers	707-463-6295	cindys@cityofukiah.com
City of Lodi Electric Utility	Rob Lechner	209-333-6800 x 2583	rlechner@lodielectric.com

Grid-Connected PV Program Alternate Contacts in California

Program	Contact	Telephone	Email
California Energy Commission*	Todd Lieberg	916-654-4059	tlieberg@energy.state.ca.us
California Public Utilities			
Commission*	John Galloway	415-703-2565	jhg@cpuc.ca.gov
PG&E	Sara Burmingham	415-973-5187	sebb@pge.com
SCE	Mei Wong	626-302-1746	Mei.Wong@sce.com
SDG&E	Nathalie Osborn	(858) 244-1193	nos@sdenergy.org
SCGC	Tony Prietto	213-244-3679	aprieto@semprautilities.com
•	•	•	
Sacramento Municipal Utility District	Mike Keese	916-732-5244	MKeese@smud.org
Los Angeles Department of Water	T	1	1
and Power	Darryl Gordon	213-367-3250	darryl.gordon@ladwp.com
allu Fowei	Darryi Gordon	213-307-3230	darryr.gordon@iadwp.com
City of Palo Alto Utilities	Lindsay Joye	650-329-2241	pvpartners@cityofpaloalto.org
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City of Santa Clara Electric Utility	Leslie Brown	408-244-SAVE	lbrown@ci.santa-clara.ca.us
City of Pasadena Water and Power	Mauricio Mejia	626-744-6970	mmejia@ci.pasadena.ca.us
-	•	•	
City of Burbank Water and Power	John Joyce	818-238-3653	jjoyce@ci.burbank.ca.us
City of Anghoim Dublic Hillitian	Dina Dradiaile	744 705 4400	days disily@anahaira nat
City of Anaheim Public Utilities	Dina Predisik	714-765-4182	dpredisik@anaheim.net
City of Redding Electric Utility	Pam Brady-Koss	530-339-7215	nhradykoss@raddingalactriautility.com
Oity of Redding Licetife Office	i am Brady 11033	000-000-7210	pbradykoss@reddingelectricutility.com
		T	
City of Glendale Water and Electric	Ned Bassin	818-548-2748	nbassin@ci.glendale.ca.us
	<u> </u>	<u> </u>	
City of Riverside Public Utilities	Atoya Mendez	909-826-5790	amendez@ci.riverside.ca.us
	-		
City of Roseville Electric	Pat Morrison	916-774-5624	pmorrison@roseville.ca.us
Pacific Power	Michael Reid	503-813-6052	michael.reid@pacificorp.com
	T	1	1
Oite of Alemenda Berrer and Tel		540 740 0040	
City of Alameda Power and Telecom	Don Rushton	510-748-3946	drushton@alamedapt.com
City of Ukiah Public Utilities	Cindy Cours	707-463-6295	aindya @aityofylkiah
City of Okian Public Utilities	Cindy Sauers	101-403-0293	cindys@cityofukiah.com
	Ī	209-333-6800 x	1
City of Lodi Electric Utility	Rob Lechner	2583	rlechner@lodielectric.com
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Grid-Connected PV Capacity in California

Graphing Data

YEAR

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total	
Program																										
Sacramento Municipal Utility District	0	0	0	1,230	0	1,230	0	0	0	0	0	23	495	675	561	421	405	236	1,220	1,446	1,679	1,390	363	36	11,410	
California Energy Commission* Pacific Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	181	619	726	4,034	8,102	12,268	4,753	30,683	
Southern California Edison		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61 120	360 250	487 133	2,041 1,118	4,951 2,108	7,411 3,158	2,926 1,275	1	18,236 8,162
San Diego Gas and Electric		ō	ő	ō	0	0	ō	ō	ō	ō	ō	ő	ő	ō	ő	ō	ő	0	10	106	866	1,042	1,675	551		4,251
Bear Valley Electric		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	24	0		33
Los Angeles Department of Water and Power California Public Utilities Commission*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	432	589 0	2,573 1.889	3,829 9,928	1,426 5,460	8,951 17,277	
Pacific Gas and Electric		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,889	4,208	4.633	17,277	10.512
Southern California Edison	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	2,649	436		3,199
San Diego Gas and Electric		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	1,971	391		2,436
***Southern California Gas Company Pre-1998	0 37	38	11	12	15	63	0	0	0 59	15	17	0 477	806	-336	-250	378	110	0 464	0	0	0	30	1,100	0	1.918	1,130
City of Palo Alto Utilities	0	0	0	0	0	0	0	Ö	0	0	17	0	0	-330	-230	0	0	0	16	16	103	73	40	15	263	
City of Santa Clara Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	34	14	4	0	54	
City of Pasadena Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84	0	0	84	
City of Burbank Water and Power City of Anaheim Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0 141	3 84	0 50	0 11	7 286	
City of Redding Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	141	2	50	0	286	
City of Glendale Water and Electric	ō	ō	0	0	0	0	ō	ō	ō	ō	ō	0	ō	ō	ō	ō	ō	ō	ō	0	ō	19	ō	ō	19	
City of Riverside Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150	15	214	10	389	
City of Roseville Electric Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	44 9	62	0	115	
City of Alameda Power and Telecon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10 0	9	0	0	19 5	
City of Ukiah Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	8	0	14	
City of Lodi Electric Utility	ō	0	ō	0	0	0	ō	0	0	ō	Ó	ō	0	ō	0	0	ō	ō	0	0	4	<u></u>	ō	0	4	
Cumulative Data (below)																										
Sacramento Municipal Utility District	0	0	0	1,230	1,230	2,460	2,460	2,460	2,460	2,460	2,460	2,483	2,978	3,653 0	4,214 0	4,635 0	5,040 0	5,276 181	6,496 800	7,942 1,526	9,621 5,560	11,011 13,662	11,374 25,930	11,410 30,683		
California Energy Commission* Los Angeles Department of Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	181	102	1,526 534	1,123	3 696	7.525	8.951		
California Public Utilities Commission*	ő	ő	ő	0	0	0	ő	0	ō	ő	ő	ő	ő	0	ő	ő	ő	ő	0	0	0	1,889	11,817	17,277		
Pacific Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,671	5,879	10,512		
Southern California Edison		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114	2,763	3,199		
San Diego Gas and Electric ***Southern California Gas Company		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74 30	2,045	2,436 1,130		
Pre-1998	37	75	86	98	112	175	175	179	238	253	270	747	1,552	1.216	966	1.345	1.454	1.918	1,918	1,918	1,918	1.918	1,130 1,918	1,918		
City of Palo Alto Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	32	135	208	248	263		
City of Santa Clara Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	36	50	54	54		
City of Pasadena Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84	84	84		
City of Burbank Water and Power City of Anaheim Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4 0	0	141	7 225	7 275	286		
City of Redding Electric Utility	ő	ő	0	ō	0	0	0	0	0	0	0	0	ō	0	0	Ö	0	ō	ő	ő	0	2	2	2		
City of Glendale Water and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	19	19		
City of Riverside Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150	165	379	389		
City of Roseville Electric Pacific Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9	9 10	53 19	115 19	115 19		
City of Alameda Power and Telecon	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	4	4	4	4	5	5	5		
City of Ukiah Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	14	14		
City of Lodi Electric Utility Total Other	. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 33	0 51	4 492	4 845	4 1,223	4 1,259		
Total Other	U	- 0	U	0	U	U	U	0	U	U	U	U	U	U	U	U	U	-	33	31	492	040	1,223	1,239		
TOTAL	37	38	11	1,242	15		0	4	59	15	17		1,301	339	311	799	515	885	1,970	2,622	6,743		26,766	11,711	71,498	
Cumulative Total	37	75	86	1,328	1,342	2,635	2,635	2,639	2,698	2,713	2,730	3,230	4,530	4,869	5,180	5,980	6,494	7,379	9,349	11,971	18,714	33,021	59,787	71,498		
T-t-1bV B	1981- 1																									
Total by Year Range			2000-																							
	1989 1	1999	2004																							
	1989 1 2,698	1999 6,652	2004 62,149																							
POLE	1989 1 2,698 Energy 0	6,652 CPUC	2004 62,149																							
PG&E SCF	1989 1 2,698 Energy 0 18,236	6,652 CPUC 10,512	2004 62,149																							
PG&E SCE SDG&E	1989 1 2,698 Energy 0 18,236 8,162	1999 6,652 CPUC 10,512 3,199	2004 62,149																							
SCE SDG&E SCGC	1989 1 2,698 Energy 0 18,236	0,652 CPUC 10,512 3,199 2,436 1,130	2004 62,149 Local																							
SCE SDG&E SCGC SMUD	1989 1 2,698 Energy 0 18,236 8,162	0,652 CPUC 10,512 3,199 2,436 1,130	2004 62,149 Local																							
SCE SDG&E SCGC SMUD LADWP	1989 1 2,698 Energy 0 18,236 8,162	0,652 CPUC 10,512 3,199 2,436 1,130	2004 62,149 Local 11,410 8,951																							
SCE SDG&E SCGC SMUD	1989 1 2,698 Energy 0 18,236 8,162	0,652 CPUC 10,512 3,199 2,436 1,130	2004 62,149 Local																							
SCE SIGGAE SIGAE SIGGAE SIGGAE SIGGAE SIGGAE SIGGAE SIGGAE SIGGAE SIGGAE SIGGAE	1989 1 2,698 Energy (18,236 8,162 4,251	1999 6,652 CPUC 10,512 3,199 2,436 1,130	2004 62,149 Local 11,410 8,951 3,177	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004		
SCE SIGGE SCGC SMUD LADWP The Rest of the State The Rest of the State	1989 1 2,698 2,698 18,236 8,162 4,251 1981 37	1999 6,652 CPUC 10,512 3,199 2,436 1,130	2004 62,149 Local 11,410 8,951 3,177	1,328	1,342	2,635	2,635	2,639	2,698	2,713	2,730	3,230	4,530	4,869	5,180	5,980	6,494	7,198	8,549	10,445	13,154	17,470	22,040	23,539		
SCE SDG&E SCGC SMUD LADWP The Rest of the State The Rest of the State California Energy Commission	1989 1 2,698 2 18,236 8,162 4,251 1981 37 0	1999 6,652 CPUC 10,512 3,199 2,436 1,130	2004 62,149 Local 11,410 8,951 3,177 1983 86 0	1,328 0	1,342	2,635 0	2,635	2,639 0	2,698 0	2,713 0	2,730 0	3,230 0	4,530 0	4,869 0	5,180 0	5,980 0	6,494 0	7,198 181	8,549 800	10,445 1,526	13,154 5,560	17,470 13,662	22,040 25,930	23,539 30,683		
SCE SDGAE SCGC SMUD LADWP The Rest of the State The Rest of the State	1989 1 2,698 2,698 18,236 8,162 4,251 1981 37	1999 6,652 CPUC 10,512 3,199 2,436 1,130	2004 62,149 Local 11,410 8,951 3,177	1,328	1,342	2,635	2,635	2,639	2,698	2,713	2,730	3,230	4,530	4,869	5,180	5,980	6,494	7,198	8,549	10,445	13,154	17,470	22,040	23,539		
SCE SDGAE SCGC SMUD LADWP The Rest of the State The Rest of the State California Energy Commission California Energy Commission Number of Systems	1989 1 2,698 2 Energy (18,236 8,162 4,251 1 1981 37 0 0	1999 6,652 CPUC 10,512 3,199 2,436 1,130 1982 75 0	2004 62,149 Local 11,410 8,951 3,177 1983 86 0	1,328 0 0	1,342 0 0	2,635 0 0	2,635 0 0	2,639 0 0	2,698 0 0	2,713 0 0	2,730 0 0	3,230 0 0	4,530 0 0	4,869 0 0	5,180 0 0	5,980 0 0	6,494 0 0	7,198 181 0	8,549 800 0	10,445 1,526 0	13,154 5,560 0	17,470 13,662 1,889	22,040 25,930 11,817	23,539 30,683 17,277		
SCE SDG&E SCGC SMUD LADWP The Rest of the State The Rest of the State California Energy Commission California Public Utilities Commission Number of Systems TOTAL	1989 1 2,698 2 Energy 0 18,236 8,162 4,251 1 1981 37 0 0	1999 6,652 CPUC 10,512 3,199 2,436 1,130 1982 75 0	2004 62,149 Local 11,410 8,951 3,177 1983 86 0 0	1,328 0 0	1,342 0 0	2,635 0 0	2,635 0 0	2,639 0 0	2,698 0 0	2,713 0 0	2,730 0 0	3,230 0 0	4,530 0 0	4,869 0 0	5,180 0 0	5,980 0 0	6,494 0 0	7,198 181 0	8,549 800 0	10,445 1,526 0	13,154 5,560 0	17,470 13,662 1,889	22,040 25,930 11,817 3562	23,539 30,683 17,277		
SCE SDGAE SCGC SMUD LADWP The Rest of the State The Rest of the State California Energy Commission California Energy Commission Number of Systems	1989 1 2,698 2 Energy (18,236 8,162 4,251 1 1981 37 0 0	1999 6,652 CPUC 10,512 3,199 2,436 1,130 1982 75 0	2004 62,149 Local 11,410 8,951 3,177 1983 86 0	1,328 0 0	1,342 0 0	2,635 0 0	2,635 0 0	2,639 0 0	2,698 0 0	2,713 0 0	2,730 0 0	3,230 0 0	4,530 0 0	4,869 0 0	5,180 0 0	5,980 0 0	6,494 0 0	7,198 181 0	8,549 800 0	10,445 1,526 0	13,154 5,560 0	17,470 13,662 1,889	22,040 25,930 11,817	23,539 30,683 17,277		
SCE SDG&E SCGC SMUD LADWP The Rest of the State The Rest of the State California Energy Commission California Public Utilities Commission Number of Systems TOTAL	1989 1 2,698 2 Energy 0 18,236 8,162 4,251 1 1981 37 0 0	1999 6,652 CPUC 10,512 3,199 2,436 1,130 1982 75 0	2004 62,149 Local 11,410 8,951 3,177 1983 86 0 0	1,328 0 0	1,342 0 0	2,635 0 0	2,635 0 0	2,639 0 0	2,698 0 0	2,713 0 0	2,730 0 0	3,230 0 0	4,530 0 0	4,869 0 0	5,180 0 0	5,980 0 0	6,494 0 0	7,198 181 0	8,549 800 0	10,445 1,526 0	13,154 5,560 0	17,470 13,662 1,889	22,040 25,930 11,817 3562	23,539 30,683 17,277		
SCE SDG&E SDG&E SCGC SMUD LADWP The Rest of the State The Rest of the State California Energy Commission California Public Utilities Commission Number of Systems TOTAL Cumulative Total Cumulative Total	1989 1 2,698 2 Energy (18,236 8,162 4,251 1 1981 37 0 0	1999 6,652 CPUC 10,512 3,199 2,436 1,130 1982 75 0 0	2004 62,149 Local 11,410 8,951 3,177 1983 86 0 0	1,328 0 0 5 13	1,342 0 0 6 19	2,635 0 0 17 36	2,635 0 0 0 0 36	2,639 0 0	2,698 0 0	2,713 0 0	2,730 0 0	3,230 0 0	4,530 0 0	4,869 0 0	5,180 0 0	5,980 0 0	6,494 0 0	7,198 181 0	8,549 800 0	10,445 1,526 0	13,154 5,560 0	17,470 13,662 1,889	22,040 25,930 11,817 3562	23,539 30,683 17,277		
SCE SCG& SCGC SCGC SMUD LADWP The Rest of the State California Energy Commission California Public Utilities Commission Mumber of Systems TOTAL Cumulative Total Cumulative KW Installed by Utility and Program: 1998 - 2003 Sacramento Municipal Utility District	1989 1 2,698 Energy (18,236 8,162 4,251 1981 37 0 0 2 2 1998 5,276	1999 6,652 CPUC 10,512 3,199 2,436 1,130 1982 75 0 0	2004 62,149 Local 11,410 8,951 3,177 1983 86 0 0 0	1,328 0 0 5 13 2001 9,621	1,342 0 0 6 19 2002 11,011	2,635 0 0 17 36 2003 11,374	2,635 0 0 0 36	2,639 0 0	2,698 0 0	2,713 0 0	2,730 0 0	3,230 0 0	4,530 0 0	4,869 0 0	5,180 0 0	5,980 0 0	6,494 0 0	7,198 181 0	8,549 800 0	10,445 1,526 0	13,154 5,560 0	17,470 13,662 1,889	22,040 25,930 11,817 3562	23,539 30,683 17,277		
SCE SIGGAE SIGGAE SIGGAE SIGGAE SIGGAE The Rest of the State The Rest of the State California Energy Commission California Public Utilities Commission Number of Systems TOTAL Cumulative Total Cumulative Total Cumulative KW Installed by Utility and Program: 1998 - 2003 Sacramento Municipal Utility District California Energy Commission*	1989 1 2,698 Energy (18,236 8,162 4,251 1 1981 37 0 0 2 2 2 1 1998 5,276 181	1999 6,652 CPUC 10,512 3,199 2,436 1,130 1982 75 0 0	2004 62,149 Local 11,410 8,951 3,177 1983 86 0 0 0 4 8	1,328 0 0 5 13 2001 9,621 5,560	1,342 0 0 6 19 2002 11,011 13,662	2,635 0 0 17 36 2003 11,374 25,930	2,635 0 0 0 36 2004 11,410 30,683	2,639 0 0	2,698 0 0	2,713 0 0	2,730 0 0	3,230 0 0	4,530 0 0	4,869 0 0	5,180 0 0	5,980 0 0	6,494 0 0	7,198 181 0	8,549 800 0	10,445 1,526 0	13,154 5,560 0	17,470 13,662 1,889	22,040 25,930 11,817 3562	23,539 30,683 17,277		
SCE SDG&E SCGC SUMD LADWP The Rest of the State The Rest of the State California Energy Commission California Public Utilities Commission Mumber of Systems TOTAL Cumulative Total Cumulative KW Installed by Utility and Program: 1998 - 2003 Sacramento Municipal Utility Destrict	1989 1 2,698 Energy (18,236 8,162 4,251 1981 37 0 0 2 2 1998 5,276	1999 6,652 CPUC 10,512 3,199 2,436 1,130 1982 75 0 0	2004 62,149 Local 11,410 8,951 3,177 1983 86 0 0 0	1,328 0 0 5 13 2001 9,621 5,560	1,342 0 0 6 19 2002 11,011 13,662 3,696	2,635 0 0 17 36 2003 11,374 25,930 7,525	2,635 0 0 0 36	2,639 0 0	2,698 0 0	2,713 0 0	2,730 0 0	3,230 0 0	4,530 0 0	4,869 0 0	5,180 0 0	5,980 0 0	6,494 0 0	7,198 181 0	8,549 800 0	10,445 1,526 0	13,154 5,560 0	17,470 13,662 1,889	22,040 25,930 11,817 3562	23,539 30,683 17,277		

Grid-Connected PV Systems Installed in California

YEAR

	1981 1	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total	
Program																										
Sacramento Municipal Utility District	0	0	0	1	0	1	0	0	0	0	0	6	56	124	113	62	17	37	211	134	306	0	68	12	1,148	
California Energy Commission*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	180	215	1,237	2,225	2,867	1,141	7,906	
Pacific Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	127	125	650	1,309	1,692	719		4,649
Southern California Edison	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	47	59	310	584	711	292		2,017
San Diego Gas and Electric		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	31	275	332	457	130		1,231
Bear Valley Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	7	0		9
Los Angeles Department of Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	488	15	503	503
California Public Utilities Commission*																					0	15	77	40	132	
Pacific Gas and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	47	25		81
Southern California Edison	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	23	9		35
San Diego Gas and Electric		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	6		14
***Southern California Gas Company	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1			2
Pre-1998	2	2	4	4	6	16	0	1	4	1	2	-3	-45	-118	-108	-52	-7	37	0	0	0	0	0		-254	
City of Palo Alto Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	6	28	22	17	5	82	
City of Santa Clara Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	4	1		17	
City of Pasadena Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
City of Burbank Water and Power	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0		3	
City of Anaheim Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	12	16	2	38	
City of Redding Electric Utility	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
City of Glendale Water and Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
City of Riverside Public Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	2	1	9	
City of Roseville Electric	0	0	0	0	0	0	0	U		0	0	0	0	0	0	0	0	0	0	0	0	20	21		41	
Pacific Power	0	0	0	0	0	0	0	U		0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
City of Alameda Power and Telecom	0	0	0	0	0	0	0	U	. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
City of Ukiah Public Utilities	0	0	0	0	0	0	0	U		0	0	0	0	0	0	0	0	0	0	0	0	3	5		8	
City of Lodi Electric Utility	0	0	0	0	0	0	0	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
TOTAL	2	2	4	5	6	17	0	1	4	1	2	3	11	6	5	10	10	115	396	357	1,590	2,308	3,562	1,216	9,633	
Cumulative Total	2	4	8	13	19	36	36	37	41	42	44	47	58	64	69	79	89	204	600	957	2.547	4.855	8.417	9.633	.,	

NOTES

Numerous utilities have not yet provided the data to determine how many systems were installed per year.

"Pre-1998" Row: These numbers were derived by subtracting the total number of systems installed by SMUD each year from the totals contained in Appendix A of the 2001 EPRI Report titled "California Renewable Technology Market and Benefits Assessment." In some years, there is a negative number. This obviously did not happen. To be consistent with the EPRI data, it was decided to keep the negative number rather than make more assumptions.